

Listing Of The Claims

1. (Currently Amended) A fuel processor for steam reforming a sulfur-containing hydrocarbon fuel, the processor comprising:
 - a desulphurization unit for reducing the sulfur content of a diesel hydrocarbon fuel;
 - a pre-reformer for catalytically converting a reduced-sulfur hydrocarbon fuel to a mixture of C₁ and C₂ hydrocarbons; and
 - a steam reformer for reforming the mixture of C₁ and C₂ hydrocarbons at a steam reforming temperature to a reformat comprising hydrogen and carbon dioxide, the steam reformer having a catalyst bed comprising a carbon dioxide fixing material for fixing at least a portion of the carbon dioxide in the reformat;
 - a condenser downstream of the steam reformer for removing water from the reformat.
2. (Cancelled).
3. (Original) The fuel processor of claim 1, further comprising a vaporization unit upstream of the pre-reformer for vaporizing the hydrocarbon fuel.
4. (Cancelled).
5. (Original) The fuel processor of claim 1, further comprising a unit downstream of the steam reformer selected from the group consisting of a methanation unit, selective oxidizer, and water gas shift reactor, for removing carbon monoxide, carbon dioxide or mixtures thereof, from the reformat.
6. (Original) The fuel processor of claim 1, wherein the catalyst bed comprises a steam reforming catalyst, said steam reforming catalyst comprises a precious metal catalyst.

7. (Original) The fuel processor of claim 1, wherein the catalyst bed comprises a water gas shift catalyst.
8. (Original) The fuel processor of claim 1, wherein the carbon dioxide fixing material is selected from an alkaline earth oxide, doped alkaline earth oxide and mixtures thereof.
9. (Original) The fuel processor of claim 1, wherein the pre-reformer comprises a catalyst suitable for converting the hydrocarbon fuel to a mixture of C₁ and C₂ hydrocarbons.
10. (Original) The fuel processor of claim 1, wherein the steam reformer comprises at least two catalyst beds and means for diverting feed streams between the at least two catalysts beds.

Claims 11-27 (Cancelled).